REMARKS

The non-final Office Action issued February 9, 2004 has been reviewed and the comments of the U.S. Patent and Trademark Office have been considered. Claims 1 and 21-35 have been canceled. Claims 2-20 and 36-104 are pending in the application. Applicant respectfully requests reconsideration of the pending claims.

Applicant thanks the Examiner for indicating that claims 2-20 and 36-104 have been allowed.

Claims 1 and 21 stand rejected under 35 U.S.C. §102 as being anticipated by U.S. Patent No. 5,820,532 to Meyer *et al* ("Meyer '532"). The Examiner has indicated that Meyer '532 shows and describes a low pressure, early suppression, fast response sprinkler ("ESFR"). Upon further consideration, applicant concurs with the Examiner's conclusion that Meyer '532 shows and describes the features of the ESFR sprinkler, as recited in claims 1 and 21, which were previously presented in the Amendment filed November 14, 2003. In particular, Meyer shows and describes an ESFR pendent sprinkler 10, which is suitable for use in accordance with NFPA 13, 231, and 231C (col. 1: 20-57) to protect storage with a maximum storage height of 25 feet in a storage area with a maximum ceiling height of 30 feet (col. 2: 1-3). The ESFR sprinkler 10 of Meyer '532 is described as having a K-factor of 25 or more with a minimum pressure of 15 psig (col. 8: 1-12). The ESFR sprinkler 10 of Meyer '532 is shown in Fig. 1 with a body 12 that defines a passageway 14 and an outlet opening 14d to deliver a flow of fluid. The ESFR sprinkler 10 of Meyer '532 also includes a deflector 60 coupled to the body 12. Consequently, applicant concurs that Meyer '532 provides an enabling disclosure for one of skilled in the art to make and use such ESFR sprinkler, as recited in previously presented claims 1 and 21. In view of this rejection, applicant has canceled claims 1 and 21-35. Accordingly, this rejection is moot.

Notwithstanding applicant's cancellation of claims 1 and 21-35, applicant respectfully asserts that the disclosed invention is not limited to an ESFR sprinkler with reentrant slots, such as the ESFR sprinkler recited, for example, in allowed claims 2-20 and 36-104. In particular, the originally filed claims recite the claimed ESFR sprinkler without the requirement of any reentrant slots. Applicant reiterates that such an invention was in his possession at the time the original application was filed. As discussed below, applicant explains why the applied rejection under 35 U.S.C. §112, first and second paragraphs, is inappropriate.

Claims 1 and 21-35 stand rejected 35 U.S.C. §112, first paragraph, as containing subject matter which was allegedly not described in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention. In particular, the Office Action concludes that claims 1 and 21-35, as previously presented, fail to recite a "deflector having two reentrant slots," and that the applicant has not described a deflector without reentrant slots that will function in the manner as claimed. In support of this conclusion, the Office Action relies on upon the decision in *The Gentry Gallery Inc. v. The Berkline Corp.*, 45 U.S.P.Q.2d 1498, 1503 (Fed. Cir. 1998). The alleged basis for this rejection is that pending claims 1 and 21-35, as previously presented, fail to recite essential or critical structures.

Applicant respectfully disagrees with this conclusion in the Office Action, and reiterates that the requirements of 35 U.S.C. §112, first paragraph, have been met, and that the rejection should be withdrawn because applicant had possession of the claimed invention at the time the application was filed. In particular, the originally filed specification states in the "Summary of the Invention," at page 8, lines 10-16, that:

> According to the invention, an early suppression fast response pendent-type fire protection sprinkler suitable for use in accordance with one or more of NFPA 13, NPFA 231 and NFPA 231C to protect single row rack storage, double row rack storage and multiple row rack storage has a K-factor of about 25 and a flowing pressure of about 15 pounds per square inch.

Thus, as of the filing date of this application, applicant had possession of at least an early suppression fast response ("ESFR") pendent-type sprinkler with a K-factor of 25 and a flowing pressure of about 15 pounds per square inch, as provided for in his Summary of the Invention. Applicant reiterates that applicant had possession of the claimed sprinkler as recited in each of claims 1 and 21-35, at least as of the filing date of this application, as previously presented, and applicant should not be required to limit the invention that he had possession thereof to any of the preferred embodiments described in the specification.

Applicant additionally traverses this rejection under section 112, first paragraph, and respectfully asserts that the requirements of 35 U.S.C. § 112, first paragraph, have been met because: (1) the originally filed claims are supported by an actual reduction to practice; (2) the

originally filed specification provides a clear depiction of the invention in detailed drawings and description to permit one skilled in the art to clearly recognize that the inventors had possession of the claimed invention, and the claimed invention functioned in the manner as claimed; (3) each of the claims, as presented in the Amendment of November 24, 2003, recites a generic claim for a representative number of species described in the specification; and (4) each of the claims, as presented in the Amendment of November 24, 2003, recites the claimed invention as a whole in compliance with the originally filed specification, and recites the functional requirements of the claimed associated structure. *See* MPEP § 2163 (8th Ed., Rev. 1, Feb. 2003).

First, applicant asserts that the originally filed claims demonstrate that he possessed the claimed invention. The originally filed claims recite an early suppression fast response sprinkler with a particular K-factor and a minimum flowing pressure. For example, originally filed claim 1 recites an early suppression fast response sprinkler with a K-factor of about 25 and a flowing pressure of about 15 pounds per square inch. This claim is based on a successful testing of at least one of the preferred embodiments and is clearly described in the specification. In particular, the originally filed specification at, for example, page 20, line 5, to page 25, line 11, describes the testing parameters and the results obtained for the claimed sprinkler. Based on the description of these results, a person skilled in the art would recognize that the inventor had possession of the invention recited in the claimed invention as a whole.

Claims 1 and 21-35, as previously presented, also recited additional features, such as the sprinkler body, that were not recited in the originally filed claims 1 and 21. Each of these additional features is supported by the originally filed specification, and conveys to one skilled in the art that the inventor possessed the invention as is now claimed. In particular, the invention, as recited in claims 1 and 21-35, as previously presented, is supported at least by the testing results set forth in the originally filed specification. Thus, the originally filed claims and specification demonstrate that the inventor possessed the invention.

Second, the originally filed specification provides a clear depiction of the invention in detailed drawings and description to permit one skilled in the art to clearly recognize that the inventors had possession of the claimed invention, and the claimed invention functions in the manner as claimed. Each of the drawings, which constitutes part of the originally filed specification, clearly depicts preferred embodiments of the claimed invention, and demonstrates that

the inventor possessed the claimed invention. For example, Figs. 5 and 5A illustrate a preferred configuration for a deflector with the reentrant slots, which provides a functioning embodiment of the claimed early suppression fast response sprinkler, as shown by the pan collection data illustrated in Figs. 9 and 10. The functionality of the illustrated embodiment of the sprinkler is further confirmed by the description of the operative and testing parameters set forth in specification. Thus, the detailed drawings of the preferred embodiment and the accompanying description in the specification regarding the operative performance of the sprinkler conveys that the inventor possessed the claimed invention, and that the claimed invention worked for its intended function.

Third, each of claims 1 and 21-35, as previously presented, recites a generic claim for a representative number of species described in the specification. Applicant describes a number of low-pressure early suppression fast response (ESFR) sprinklers that provide "a relatively greater quantity of fire retardant fluid... diverted to produce ... the spray pattern at lower pressures, as compared to ... thrust generated by prior art deflectors..." (page 16, line 4). The specification further describes, at page 16, line 4, for example, that a sprinkler of the preferred embodiments produces a spray pattern "... at relatively lower inlet pressures, than provided by prior art sprinklers of similar purpose..." and at page 23, line 2, further describes that these sprinklers are "...designed to operate at substantially lower end head pressures, as compared to ESFR sprinklers having a nominal K-factor of 14." The specification states, at page 25, line 14, that the outlet of "[t]he sprinkler 10 may have a K-factor in the range of about 8.0 to 50.0, preferably in the range from about 14.0 to 30.0, more preferably in the range of about 22.0 to about 28.0, and most preferably the K-factor is about 25.0." The originally filed specification provides, for example, a variety of deflectors and reentrant slot orientations for the claimed low pressure early suppression fast response sprinkler. Figs. 3 and 5 illustrate two of these different deflectors 21, 30 that may contain a grouping of equally spaced reentrant slots 29 (Fig. 3), or possibly a first and second grouping of reentrant slots 54, 60 (Fig. 5). The specification at, for example, page 25, line 18 to page 26, line 13, describes a variety of arrangements for the deflectors and, thus, the sprinklers of the preferred embodiments. Because the outlet of the ESFR sprinkler is described as having a range of K-factors, and that various deflectors may be included in the low-pressure ESFR sprinklers, each of the claims 1 and 21-35, as previously presented, recites a generic claim for a representative number of species

described in the specification, and the particulars of the deflector which may be used with each of these species are non-essential to the generic recitation of the claimed invention as a whole.

Fourth, each of the generic claims, as previously presented, recites the claimed invention as a whole in compliance with the originally filed specification. That is, the rejected claims recite the invention without omission of an essential element. As discussed above, the originally filed specification provides sufficient description of a representative number of species of the preferred embodiment. While describing a number of low pressure ESFR sprinkler embodiments, applicant has not given testimony nor admitted to limiting the ESFR sprinklers of his invention to the particular configuration of the deflectors or, more particularly, to the requirement for two reentrant slots on these deflectors. Also, applicant has not stated that these deflector and reentrant slot variations are outside the stated purpose of the invention.

Contrary to the conclusion in the Office Action, applicant has not recited claims, as previously presented, broader than the supporting disclosure, and has not indicated that the disclosure is so limiting. On the other hand, applicant has provided a written description that provides a person skilled in the art with sufficient basis to convey that he had possession of various species of the invention, and that a deflector with two reentrant slots is not the only possible configuration of the deflectors, but rather as being among a number of variations that may be included in the low pressure ESFR sprinklers. These various embodiments described in the specification convey to one of skill in the art that a deflector with at least two reentrant slots is not an essential or critical feature for the generic recitation of the claimed invention as a whole, but only necessary for the particular preferred embodiments set forth in the originally filed specification. Although the originally filed specification compares a commercialized embodiment of the invention to a sprinkler with a deflector having straight slots, applicant believes that he is the first to develop a commercial embodiment of a pendant ESFR sprinkler capable of operating for its intended purpose at the specified respective minimum design pressures. Accordingly, the claims that specify the pressure in relation to the particular K-factor indicate that applicant had possession of the claimed invention upon the filing of the application. Applicant respectfully reiterates that each of the claims 1 and 21-35, as previously presented, is not required to recite details of the preferred embodiments, such as, for example, the reentrant slots.

Therefore, claims 1 and 21-35, as previously presented, are commensurate with this scope of the invention, and are supported by the originally filed specification.

Moreover, one skilled in the art would recognize that the previously presented claims comply with the written description requirement because they recite a particular sprinkler and associated structure, and the functional requirements of the associated structure. Previously presented generic claim 1, for example, recites, *inter alia,* an early suppression fast response sprinkler with a sprinkler body defining an orifice and outlet, and a K-factor of about 25 or more; claim 1 further recites a minimum design flowing pressure of the sprinkler of about 15 pounds per square inch at the most hydraulically remote sprinkler. Furthermore, each of the previously presented claims recites a sprinkler with a sprinkler body and a minimum flowing pressure at the most hydraulically remote sprinkler so that the claimed sprinkler provides an early suppression fast response sprinkler for a specified storage and ceiling height. These minimum operating pressures in combination with the features of the sprinkler body, for example K-factor, precisely define structural attributes of the interrelated components of the claimed invention, and distinctly define the boundaries of patent protection sought. *See* MPEP § 2173.05 (g). Thus, applicant asserts that previously presented claims 1 and 21-35 are claims which recite the invention as originally possessed by the inventor, and are not required to recite additional features, which one skilled in the art would recognize as being nonessential to the claimed low pressure ESFR sprinklers. Thus, these nonessential deflectors and reentrant slots are not required to be included in the claims, and thus the previously presented claims comply with the scope provided by the originally filed specification.

Claims 1 and 21-35 also stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Applicant respectfully disagrees that the recitation of a K-factor of a sprinkler and the associated function of these claimed components renders the claims indefinite. The K-factor is a discharge coefficient that identifies an operative requirement for the structural features of a sprinkler. Specifying a K-factor for a sprinkler particular points out and distinctly claims a particular sprinkler, and the claims are thus definite. Furthermore, recitation of a minimum operating flow pressure for the claimed sprinkler provides a functional association between the claimed sprinkler components, and precisely defines structural attributes of the interrelated components of the claimed invention. Moreover, recitation of NFPA, commodity storage height, and particular ceiling heights further points out the distinct early suppression sprinkler that is recited

in the claims and defined by the preamble of the previously presented claims. Accordingly, applicant submits that the previously presented claims are definite, and the rejection under 35 U.S.C. §112, second paragraph, is inappropriate.

To expedite prosecution of this application, however, applicant has canceled claims 1 and 21-35. Accordingly, the rejections under 35 U.S.C. § 112, first and second paragraphs are moot. Applicant, however, reiterates that he had possession of the claimed invention, as recited in the previously presented claims and variations thereof between the canceled claims and allowed claims 2-20 and 36-104.

In view of the foregoing, applicant respectfully submits that the pending claims 2-20 and 36-104 are now in condition for allowance. An early notice to this effect is earnestly solicited. If there are any questions regarding the application, the examiner is respectfully requested to contact the undersigned representative to expedite prosecution of the application.

EXCEPT for issue fees payable under 37 C.F.R. § 1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. §§ 1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account 50-0310. This paragraph is intended to be a **CONSTRUCTIVE PETITION FOR EXTENSION OF TIME** in accordance with 37 C.F.R. § 1.136(a)(3).

MORGAN, LEWIS & BOCKIUS LLP

Respectfully submitted,

Dated: June 22, 2004 By: _____

David W. Laub
Reg. No. 38,708

CUSTOMER NO. 009629
MORGAN, LEWIS & BOCKIUS LLP
1111 Pennsylvania Avenue, N.W.
Washington, D.C. 20004
Tel: 202-739-3000
Fax: 202-739-3001